DOCUMENT RESUME

ED 213 599 SE 036 441

AUTHOR Howell, Jerry, Ed.
TITLE Guidelines for Environmental Education, The Kentucky Plan. 1982 Revision.
INSTITUTION Kentucky State Dept. of Education, Frankfort. Div. of Program Development.
PUB DATE 82
NOTE 30p.; For related document, see ED 134 444. Contains occasional light and broken type.
AVAILABLE FROM Program Manager, Environmental Education, Kentucky Dept. of Education, Capital Plaza Tower, Room 1829, Frankfort, KY 40601 (no price quoted).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Educational Objectives; Elementary Secondary Education; *Environmental Education; *Guidelines; Higher Education; *Master Plans; *Program Development; *Program Implementation; *State Programs
IDENTIFIERS *Kentucky

ABSTRACT

In 1975, the Kentucky Advisory Council for Environmental Education, consisting of representatives from education, government agencies, business, conservation groups, and concerned citizens, was appointed by the Kentucky Department of Education to develop and promote guidelines which would help increase environmental awareness in Kentucky. As a revision of these guidelines, this document includes: (1) a discussion about the nature of environmental education; (2) historical analysis of the situation; (3) identification of sources of input from inside and outside the Department of Education; (4) list of program goals with related objectives and activities; and (5) strategies for implementation. (DC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED213599

guidelines for environmental education

the kentucky plan

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
NANCY THEISS
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Bureau of Instruction
Kentucky Department of Education
Raymond Barber, Superintendent

REVISION 1982 2

SE 036 441

FOREWORD

This document is a revision of the Guidelines for Environmental Education: The Kentucky Plan which was written by the Kentucky Advisory Council for Environmental Education in 1975. This council was appointed by the Kentucky Department of Education and consisted of representatives from education, government agencies, business, conservation groups, and concerned citizens. From this council the Kentucky Association for Environmental Education (KAEE) was formed. The council's responsibility has been to help increase environmental awareness throughout the Commonwealth and to assist the Kentucky Department of Education in promoting the Guidelines for Environmental Education: The Kentucky Plan.

These guidelines were written as a five-year plan so that necessary revisions can be made as the environmental education program in Kentucky expands. In the spring of 1981, the Kentucky Association for Environmental Education initiated action for this first revision. As a result, the Kentucky Department of Education appointed a revision committee to review and change the document as needed.

Continuing improvement in the quality of education is the goal of highest priority within the Kentucky Department of Education. It is hoped that the efforts reflected herein are significant in furthering this purpose.

Raymond Barber

Raymond Barber

1981 REVISION COMMITTEE FOR THE GUIDELINES FOR ENVIRONMENTAL EDUCATION: THE KENTUCKY PLAN

Bill Bell
Kentucky Department of Fish and Wildlife Resources, No. 1 Game Farm
Mitchell Road
Frankfort, Kentucky 40601

Shaw Blankenship
Tennessee Valley Authority
Forestry Building
Norris, Tennessee 37828

Janet Caldemeyer
Land Between the Lakes
Tennessee Valley Authority
Golden Pond, Kentucky 42231

Don Harker
Kentucky Nature Preserves Commission
407 Broadway
Frankfort, Kentucky 40601

Johanna Hounschell
Englehard Elementary
1004 South First Street
Louisville, Kentucky 40203

Dr. Jerry Howell
Department of Biological and Environmental Sciences
Morehead State University
Morehead, Kentucky 40351

Allison Kelley
Kentucky Department for Natural Resources and Environmental Protection
Capital Plaza Tower
Frankfort, Kentucky 40601

Mark Kleckner
Kentucky Solar Coaltion
Route 1
Owenton, Kentucky 40359

Mike O'Brien
Project EASE
Murray State University
Murray, Kentucky 42071

Townley Bergmann
Kentucky Division of Forestry
618 Teton Trail
Frankfort, Kentucky 40601

Horace Brown
Kentucky Wildlife Rescue Release Association, 527½ Main Street
Shelbyville, Kentucky 40065

Charlie Crail
United States Forest Service
100 Vaught Road
Winchester, Kentucky 40391

Dr. Steve Henderson
Model Laboratory School
Eastern Kentucky University
Richmond, Kentucky 40475

Frank Howard
Kentucky Department of Education
Room 1829, Capital Plaza Tower
Frankfort, Kentucky 40601

Peg Hyland
Legislative Research Commission
State Capitol Building
Frankfort, Kentucky 40601

Etta Ruth Kepp
Environmental Quality Commission
State Bank Building
Frankfort, Kentucky 40601

Nancy Lake
Berea Community Elementary School
Berea, Kentucky 40403

Herb Petitjean
Pendleton County High School
Falmouth, Kentucky 41040

Dreama Price
University Breckinridge School
Morehead State University
Morehead, Kentucky 40351

Bob Somers
Kentucky Division of Conservation
1121 Louisville Road
Frankfort, Kentucky 40601

Jim Thaxton
Pendleton County High School
Falmouth, Kentucky 41040

Linda Toon
Mill Creek Elementary School
3816 Dixie Highway
Louisville, Kentucky 40216

Harold Woodward
United States Soil Conservation Service
333 Waller Avenue
Lexington, Kentucky 40504

Anne Renner
King Elementary School
4325 Vermont Avenue
Louisville, Kentucky 40211

Dr. Sheryl Jo Stephan
Department of Parks and Recreation
Eastern Kentucky University
Richmond, Kentucky 40475

Nancy Stearns Theiss
Kentucky Department of Education
Room 1829, Capital Plaza Tower
Frankfort, Kentucky 40601

David Wicks
Project Innovative Diversons
Durrett, 4409 Preston Highway
Louisville, Kentucky 40202

ACKNOWLEDGEMENTS

The Kentucky Department of Education would like to gratefully acknowledge the help and volunteer efforts of The 1981 Revision Committee for the Guidelines For Environmental Education: The Kentucky Plan.

In particular we would like to acknowledge the careful editing from Dr. Jerry Howell.

Mandate for Environmental Education
Kentucky Revised Statute 158.280
Revised 1972 to Read as Follows:

"Instruction in all phases of environment shall be included in the curriculum of the public schools of Kentucky; and textbooks regarding the proper use and protection of forests, soils, water, minerals, wildlife and other aspects of the environment shall be prepared or selected by the State Textbook Commission for this purpose."

Copies of this Plan may be obtained by writing:

Nancy Stearns Theiss
Program Manager-Environmental Education
Kentucky Department of Education
Room 1829, Capital Plaza Tower
Frankfort, Kentucky 40601

TABLE OF CONTENTS

		Page
I.	The Nature of Environmental Education	1
	Definitions:	
	U.S. Office of Education	1
	Educational Facilities Laboratory	1
	General Philosophy	2
II.	Situation Assessment	5
	Historical Development of Environmental Education in Kentucky	5
	Input from Within the Kentucky Department of Education	7
	Input from Outside the Kentucky Department of Education	8
III.	Program Goals and Objectives and Activities	15
	Teacher Orientation	15
	Program Development	16
	Physical Resource Utilization	17
	Promotion and Dissemination	19
	Program Implementation	20
IV.	Strategies for Implementation	21
	Teacher Orientation	21
	Program Development	24
	Physical Resource Utilization	24
	Promotion and Dissemination	25
	Program Implementation	26

CHAPTER I

The Nature of Environmental Education

When dealing with any broad area of emphasis, it is desirable to have a definitive statement to serve as a focal orientation point. Unfortunately, a single definitive statement is not always available for meeting the diverse needs of several groups. Such is the case with environmental education. Rather than offering a single definition for environmental education, two definitive statements follow, each approaching the topic from a different perspective.

Definitive Statements

U.S. Office of Education - As established by the U.S. Office of Education, the "official" definition of environmental education is as follows:

> Environmental education is the education process dealing with man's relationship with his natural and man-made surroundings, and includes the relation of population, pollution, resources allocation and depletion, conservation, transportation, technology, economic impact and urban and rural planning to the total human environment.

Educational Facilities Laboratory - When implementing programs, formal and informal, it is necessary to clarify essential points beyond the political. This need is met by a functional definition, outlining the parameters of environmental education:

Environmental education is:

- a new approach to teaching about man's relationship to the environment, how he affects and is affected by the world around him
- an integrated process dealing with man's natural and man-made surroundings
- experienced based learning using the total human, natural and physical resources of the school and surrounding community as an educational laboratory
- an interdisciplinary approach which relates all subject areas to a whole earth, a "oneness of purpose"
- oriented toward survival in an urban society
- life centered and oriented toward community development
- an approach for developing self-reliance in responsible, motivated members of society
- a rationale approach to improve the quality of life
- geared toward developing behavior patterns that will endure throughout life.

The consensus is that environmental education is not:

- conservation, outdoor resource management, nature study or energy education (although these areas may be included in an environmental education program)
- a cumbersome new program requiring vast outlays of capital and operating funds
- a self-contained course to be added to the already crowded curriculum
- merely getting out of the classroom.

General Philosophy

Environmental education is evolving. The various evolutionary stages have fostered numerous quantitative attempts to describe environmental education. These attempts have yielded equally numerous and complex definitions, few of which have been widely accepted. A reoccurring element, however, is most of these definitions is the categorization of environmental education as a *process*.

As a process, environmental education is a tool for obtaining a product, rather than a product in itself. Consequently, it is not taught as a course of study, but is used by educators as a process in teaching varied courses of study. Environmental education is, therefore, integrated into existing study areas rather than replacing them. Environmental education is a process for teaching all students, handicapped and non-handicapped, from kindergarten through college.

In its broadest sense, environment is everything outside of ourselves, and yet the effect of the environment on our innerselves, our values, our attitudes and aptitudes, and general well being is well documented. The environment is one of the most formative factors influencing life at all levels, yet it is one of the least stable of these influencing factors. Drastic environmental change results in imperative adaptation or annihilation of the life within that environment. The environment, being readily accessible, becomes one of the richest sources for realistic situations, either human-made or natural. Thus, in the environmental education process, we find the recurring theme of relationships connected both to human and human to nature.

The process of environmental education encourages problem-solving and decision-making by exposing students to problems and decisions, identified in their courses, as exemplified in realistic environmental situations. Problem-solving and decision-making skills are best achieved through techniques requiring investigation and inquiry, rather than those using pre-determined information and results. The implications of this process lead the instructor into techniques described as "open-ended," "inquiry-approach," and "hands-on" experiences. Although not limited to environmental education, these experiences and techniques are commonly used in developing and implementing environmental programs in the classroom. The environmental education process encourages educators to apply these techniques to the real world rather than artificially developed situations. The course of study determines the applicable situations and the sources of examples provided from the real world, the environment.

Topics such as energy usage, resource management, pollution and all the subject areas (language arts, math, etc.) are blended together as the environment becomes both the focal point of study and the medium in which learning takes place. This direct exposure provides the context for learning, including the broad diversity of correlated and interrelated factors considered in reaching appropriate solutions and alternatives.

In the end, it is the intent of environmental education to foster environmental awareness, ecological understanding, a feeling of connection to the earth and all living things, and an ability to act accordingly.

In seeking to educate tomorrow's citizenry, few skills are more desirable than those of problem-solving and decision-making. Few attitudes surpass those of survival, development, and change as they relate to an environmental ethic. As education is the means for achieving these goals, Kentucky ranks environmental education high in priority.

CHAPTER II

Situation Assessment

The Kentucky Department of Education lists the following two environmental educational goals in Kentucky:

I. Awareness of one's relationship to the physical environment and the wise use of resources

II. Understanding the effects of technology and of population growth on the environment.

There have been many sources of input in the development of these goals. Much is based on the historical development of environmental education in Kentucky, although inputs from inside and outside the Kentucky Department of Education have also played major roles.

Historical Development of Environmental Education in Kentucky

As early as 1941, Kentuckians felt the need for an organized education program based on natural and man-made environments. The Kentucky Department of Education and the Kentucky Department of Fish and Wildlife Resources (then Division of Fish and Game) published a 1941 curriculum guide for teachers, Units in Conservation of Wildlife and Other Natural Resources. Soon to follow, in 1944, the Kentucky legislature passed the Kentucky Conservation Education Statute. This statute empowered the Department of Education to implement and develop this program in Kentucky schools. Special emphasis was given to the conservation and preservation of soils, forests, water, minerals and wildlife.

By the early fifties an identifiable emphasis was being placed on outdoor education and nature study by many educational and recreational groups in Kentucky. During this time, numerous residential and non-residential conservation camps were established throughout the Commonwealth. It was through these camps that the philosophy of the conservation education program merged with the techniques of the outdoor education school.

With the coming of the sixties, the space age had special implications for environmental education. Science received the educational spotlight and major revisions were made in both content and process areas of science education. Among the various science areas to emerge as innovative curricula was ecology. Ecology, and the special attention given to scientific exploration of the environment, was to be the preluding science to environmental education. This science was limited, however, to those scientifically inclined.

The layman was limited in his understanding of ecological principles until the late 60's. A national phenomena, Earth Day, successfully merged the academic, professional, and lay communities in 1970 into an active group with common interests. The educational result was a composite program of conservation education, outdoor education and ecology. Although environmental education contained elements of each of these programs, it evolved into a unique program, separate from but inclusive of previous programs.

In Kentucky, the environmental education program was formally instituted by the State Board of Education in a resolution assigning primary responsibility to the Bureau of Instruction. Since this resolution stated changing needs as a primary consideration, the program was initially formulated to meet specific needs. As these needs were met and new needs evolved, environmental education began to reach into non-traditional areas. The first consultant assigned specific duties in environmental education was the State Science Consultant. Under his direction two major steps were taken. The first major step was the development of an interim planning document, the *State Plan for Environmental Education Development* published in 1970. The SPEED documents outlined the roles and resources in Kentucky that were needed in order to implement a total environmental education program.

The second major step was the organization and implementation of a statewide writing conference to develop environmental education curricula. This conference was held during the summer of 1971 at Cumberland Gap National Historic Park and included members of the Kentucky Department of Education, public and private school personnel, and a variety of representatives from other Kentucky institutions. The results of this conference were eventually published as the first two curriculum units. *Hands-On Kentucky: Science 4-6* and *Hands-On Kentucky: Sights and Sounds 4-6*. These units were piloted in eight elementary schools across Kentucky in 1972.

In the fall of 1971, a full-time consultant was placed on the staff of the Bureau of Instruction with responsibility for environmental education program development and implementation. Through existing and developing programs in conservation education, outdoor education and ecology, new programs began to surface that were admixtures of past programs, but with newer elements and goals. These were the first environmental education programs. With leadership provided by the Kentucky Department of Education, ties were strenghtened with existing state, local and federal agencies involved in environmental education programming. With the Environmental Education Act of 1972, passed by the Kentucky legislature, the Kentucky Conservation Education Statute of 1944 was revised; environmental education was mandated in Kentucky's public schools and the term "conservation education" became obsolete.

A very active year, 1972, was highlighted by a statewide conference, "Planning for Environmental Education." The conference purpose was to identify needs, resources, goals and objectives for environmental education in Kentucky. Over 100 individuals, representing more than 60 local, state and federal agencies, community groups, public and private schools, colleges and universities, and governmental leaders, spent three days developing guidelines and recommendations based on their identification of priority items. Some direct results of the Lake Barkley "Planning for Environmental Education" conference emerged as a statewide series of student leadership training courses provided by Students Toward Environmental Participation (STEP), as a periodical newsletter published by the Kentucky Department of Education, and as a formalized Advisory Council for Environmental Education to the Kentucky Department of Education. This advisory council assumed the major responsibility for providing the Kentucky Department of Education with proposals and recommendations relating to environmental education in the spring of 1974 and 1975.

It was through recommendations by the Advisory Council for Environmental Education that the first edition of the Guidelines for Environmental Education: The Kentucky Plan was written and published in 1975. Soon after these guidelines were written, the Kentucky Association for Environmental Education (KAEE) was formed. Its membership is composed of approximately 200 educators,

organizations, agencies and private citizens who are interested in promoting environmental awareness throughout Kentucky. Since 1976, KAEE has held yearly statewide conferences, many of which have been in conjunction with Kentucky Department of Education activities. In addition, this association publishes quarterly newletters and helps promote activities as outlined in Guidelines for Environmental Education: The Kentucky Plan.

Input from Within the Kentucky Department of Education

In addition to providing a statewide consultant for environmental education, the Bureau of Instruction, through its Division of Program Development, has the major responsibility for program development within the Kentucky Department of Education. It is within this bureau that a total environmental education program for Kentucky was conceptualized. In addition to providing a consultant for environmental education, this bureau publishes curriculum models; maintains a vast collection of curriculum material, including the ERIC system; sponsors special subject area (i.e., math, science, language arts, social studies, art, media center) conferences, which include components of the environmental education program; and has the primary responsibility for development and promotion of environmental education in Kentucky.

Also housed within the Bureau of Instruction are the special federal education programs, several of which have had input into environmental education development in Kentucky. One of these programs was ESEA Title III. It was through Title III that many of the early attempts at integrating environmental education into the formal educational structure were funded. Significant "pioneer" programs, developed in the mid-60's, included the Paducah school system's program and publication, Objectives and Field Activities for Environmental Education, and the model outdoor laboratory in Bourbon County. Later, in the early 70's, the Region IV-B project at Bourbon County was expanded into a regional effort, inclusive of both school site and coordinated curricular developments. Also during the early 70's, ESEA Title III, Region VI, housed at Eastern Kentucky University, implemented a series of teacher awareness workshops and provided over 300 teachers with practical field experiences and college credit. In Somerset, Kentucky, Title III developed Project PEECE, Project for Environmental and Early Childhood Education, which involved teachers in exemplary curriculum development and resulted in the publication of a K-12 curriculum guide. These innovative Title III programs provided a firm reference base for the many additional programs in Kentucky.

In 1977 the Bureau of Instruction received a grant from the Kentucky Department of Energy to develop and initiate energy education concepts in Kentucky schools. This grant, the educational curriculum measure of the energy conservation plan, intertwined concepts for energy education with the environmental education program, and yielded some exciting results. One of the first outcomes of this program was the development of the curriculum guide Energy Conservation Activities for the Classroom K-12. Later a Teacher's Guide to Energy Resources in Kentucky was written to accompany the curriculum guide. In addition, many regional teacher workshops have been sponsored by the energy conservation plan; one of the most noteworthy was the Kentucky Area Environmental Energy Resource Fair or KAEER Fair in 1979. This fair has become an annual statewide event and features regional (Kentucky and nearby states) environmental and energy resource specialists, exhibits, and seminars and teacher workshops.

The major purpose of the fair is to provide educators with information and materials which can be utilized in the classroom. A KAEER Fair Resource Guide is published annually and serves as an update for the Teacher's Guide to Energy Resources in Kentucky. Other publications available to educators upon request through the Department of Education include an environmental education pamphlet on the program itself, the booklets Building Outdoor Classrooms and Bringing the Great Outdoors to Your Classrooms and the Guidelines for Environmental Education: the Kentucky Plan. Notice of scheduled workshops and news on state programs are disseminated through the Kentucky Department of Education's newsletter, Ed News. This newsletter is sent to all school districts each month during the school year.

Through the Kentucky Department of Education, school districts have access to the National Diffusion Network. This network is an accumulation of exemplary school programs developed across the United States. These programs cover a wide range of curriculum topics, several of which are developed and tested environmental and energy education programs. In some instances, funding is available for staff training, technical assistance and materials for interested school districts.

A Merit Rating program has been developed for Kentucky's environmental education program. The Merit Rating is a certificate of recognition awarded to a specific area of the high school curriculum which has features exceeding the requirements for comprehensive accreditation classification and which has undergone an evaluation. In the fall of 1982, secondary schools will be permitted to request merit rating reviews in environmental education.

The Kentucky Department of Education draws on the resources of many local, state and federal agencies, as well as private organizations for the development and promotion of environmental education. The American Forest Institute initiated the Project Learning Tree Program in Kentucky in 1977. This program has given the Department of Education access to developed curriculum materials that can be distributed and used by classroom teachers who first participate in an inservice or workshop program. Another workshop program available by request for school districts and teachers is Investigating Your Environment, developed by the U.S. Forest Service. The Department of Education promotes and jointly sponsors these workshops as training programs for teachers interested in environmental education applications for the classroom.

Through the help and the guidance of the Kentucky Educational Television network, the Department of Education has been able to disseminate programs and information to schools on environmental and energy education. Continued assistance and programming through KET is helping to provide incentive and support for Kentucky's environmental education program. A four part children's television series entitled, "Thunder at Middle Ground" was developed which focuses on Kentucky's natural areas. This series was aired on KET in the fall of 1981 and has received the support and sponsorship of the Department of Education, the Kentucky Nature Preserves Commission, the Tennessee Valley Authority, the Kentucky Audubon Council, the Kentucky Department of Energy and KET. A teacher's handbook and a poster on Kentucky's Rare and Endangered Plants and Animals will accompany this series.

Input from Outside the Kentucky Department of Education

The environmental education program in Kentucky is a coordinated effort of a multitude of agencies, organizations, schools, centers, parts, institutes of

higher education, industry, youth groups and individuals. It is a conscious effort to promote positive decision-making designed to provide a healthful and esthetic world. The following paragraphs briefly describe many of the programs actively pursuing the effort in the state.

State Agencies

As an early leader in the field of conservation education, the Kentucky Department of Fish and Wildlife Resources co-sponsored with the Kentucky Department of Education, a curriculum guide for classroom teachers in August, 1941. Over the years, this state agency has been consistent in providing educational services throughout the state. They have made available to Kentucky schools a wide range of services, including the use of conservation officers for periodic presentations, an excellent film library on conservation themes, and three summer camps. Structured to serve the upper elementary student, these camps are geographically spaced across the state. In summer residence programs, students are exposed to an intensive program of recreation and education as they relate to conservation education and related skill development.

The Kentucky Department for Natural Resources and Environmental Protection (DNREP) was formed in 1972 to help regulate environmental laws and manage the natural resources in the state. Many divisions within this agency have played key roles in the promotion of environmental education programs. The Division of Conservation has actively sponsored teacher workshops and helped to coordinate activities of the Kentucky Association of Conservation Districts or KACD. Through the KACD an annual conservation award is presented to an outstanding teacher in the state. It is also through KACD and the Courier-Journal and Times newspapers that the annual Conservation Essay and Poster Contest is held. Started in 1944, this contest involves participation from more than 100,000 students across Kentucky each year.

The Division of Forestry in DNREP provides and disseminates valuable teaching materials and films to school districts at no or very low cost. This division has also been very active in providing teacher training workshops using the Investigating Your Environment materials. Sponsorship of summer forestry youth camps represents another valuable contribution to the environmental education education program.

Serving in an advisory capacity to the Kentucky Department for Natural Resources and Environmental Protection is the Environmental Quality Commission. In the few years since its inception, this group has been instrumental in providing mini-grants for public education programs and has served as a vehicle for public involvement in environmental decision-making.

In 1976 the Kentucky Nature Preserves Act established the Kentucky Nature Preserves Commission. Its major purpose is to inventory natural areas in the state and establish preserves which contain significant examples of Kentucky's special flora and fauna. The Black Acres Nature Preserve in Jefferson County, a project of the Commission, is making a significant contribution in developing an environmental education center to be utilized by schools in that area. The Commission also publishes educational materials for classroom use and recognizes the importance of encouraging environmental education program development around more preserves as they are acquired.

As mentioned previously, the Kentucky Department of Energy has helped to support the development of curriculum materials for teachers in energy conservation through the Department of Education. The Department of Energy has served as co-sponsors of the KAEER Fair, sponsored teacher workshops, held statewide contests for students on energy conservation tips and has actively promoted energy conservation awareness activities for the public.

Federal Agencies

The Tennessee Valley Authority (TVA) has helped to initiate environmental education programs in Kentucky. Land Between the Lakes, operated by TVA, has two residential facilities for school groups who are interested in environmental education activities. Resource personnel are available for teacher training, and various publications in energy and environmental education are periodically issued. Alternate energy displays, a nature center, planetarium and a working historic farm are a part of the unique features offered for visiting school groups and the public. TVA sponsors many teacher workshops and was instrumental in providing support for the establishment of the Center for Environmental Education at Murray State University.

The United State Department of Agriculture has been very active in providing grass root programs for public and school awareness toward the appreciation and wise use of our natural resources. The Agriculture Extension Service in Kentucky provides residential facilities that can be used by schools. Many extension leaders have served as the initiators of outdoor education programs. The Soil Conservation Service has been very active in the promotion and development of school site laboratories and outdoor classrooms in both urban and rural settings. Many local SCS representatives serve as advisors to area school groups and faculties and provide technical information about soil and water resources. In addition soil conservation district associations sponsor teacher training in environmental education workshops and provide financial assistance for community conservation projects. The United States Forest Service sponsors teacher training workshops utilizing its developed curriculum materials, Investigating Your Environment.

The National Park Service operates an environmental education center at Mammoth Cave National Park. Teacher training, school programs, interpretative workshops and residential facilities are available. Trained resource people can also assist program development and serve as resource aides.

Institutes of Higher Education

Today most every college and university in Kentucky offers some kind of teacher or student workshop during the course of the year in environmental education. The following is a brief description of some programs which focus on environmental education studies on a regular basis.

The Center for Environmental Education at Murray State University offers a graduate degree program with emphasis in environmental education. The Center houses resource materials and coordinates activities of the West Kentucky Environmental Education Consortium. This consortium is composed of school districts in western Kentucky interested in promoting environmental awareness programs in their schools. The center offers teacher workshops year round and supports internship programs.

Morehead State University offers an undergraduate degree in environmental studies with four options. The Center for Environmental Studies at Morehead coordinates public and student activities in the promotion of environmental awareness. Teacher workshops are offered periodically.

Eastern Kentucky University offers a variety of teacher workshops in environmental education throughout various departments. The Department of Parks and Recreation offers an undergraduate degree in parks and recreation and offers a two-four day resident experience for school and youth groups. The Maywoods Environmental and Educational Laboratory is a large natural area managed and protected by Eastern Kentucky University to conduct ecological research and provide an outdoor laboratory for field instruction in ecology, biology, geology, geography and environmental education. Maywoods is equipped with a lodge, overnight lodging and food service.

Currently there is a three-year research project funded by the U.S. Office of Special Education at the University of Kentucky. Its purpose is to develop, field test and disseminate instructional programs designed to assist educational park and resource personnel and parents and guardians in planning and promoting outdoor education programs for handicapped children and youth, K-12.

Environmental Education Resource Centers

There are a number of resource centers in the state actively promoting environmental awareness programs. Some are privately financed, others through universities, schools, organizations, etc. The list below is by no means inclusive of current centers being operated.

* Carter Caves State Park

* Land Between the Lakes, Golden Pond, Kentucky

  Center for Environmental Education, Murray State University. Murray, Kentucky

  Black Acres Nature Preserve, Jeffersontown, Kentucky

* Otter Creek Park, Vine Grove, Kentucky

  Rockcastle Resource Center, Appalachian Science in the Public Interest, Livingston, Kentucky

* McCreary County Environmental Education Center, Whitley City, Kentucky

* Pine Mountain Settlement School, Bledsoe, Kentucky

* Mammoth Cave Environmental Education Center, Mammoth Cave, Kentucky

  Buckley Wildlife Sanctuary, Frankfort, Kentucky

  Urban Homestead House, Environmental Alternatives, Louisville, Kentucky

* Maywoods Environmental Laboratory, Richmond, Kentucky

* John James Audubon Park, Henderson, Kentucky

Owensboro Area Museum, Owensboro, Kentucky

Living Arts and Science Center, Lexington, Kentucky

Museum of History and Science, Louisville, Kentucky

Louisville Zoological Garden, Louisville, Kentucky

Bernheim Forest, Bardstown, Kentucky

*Denotes overnight facilities available at low rates to school groups. Also Easter Seal, 4-H, church and scout camps are available at low cost for use during the school year.

In addition, during the summer months the Department of Fish and Wildlife and the Department of Forestry offer instructional conservation camps for youth.

School Programs

Since the early 70's, Kentucky school programs have expanded and broadened. Many schools have adopted residential programs, designed to remove students out of the confines of the school facility and provide overnight experiences in an outdoor setting. Today there are a multitude of utilized facilities, including church, scout and 4-H camps; parks; environmental education centers; and, in some instances, school backyards. These programs are becoming well-ingrained parts of the school curriculum and receive outstanding local support from teachers, students, administrators, parents and the community. One outstanding example is the McCreary County Environmental Education Program, coordinated by the school system and the local extension service. All students within the school system participate in a well-planned program conducted at the McCreary County 4-H and Environmental Education Center.

Another outstanding school program is Project Innovative Diversions within the Jefferson County School System. This program, originally designed to provide outward bound experiences for juvenile delinquents, has expanded to the coordination of camping program, inservice and workshop training in environmental education for teachers, and overseeing the development of activities at the Black Acres Nature Preserve.

Outdoor classroom development on school sites is another area which some schools have promoted and encouraged. These outdoor classrooms are usually locally financed and developed according to school directions and needs; some contain alternate energy demonstrations, some have developed fitness trails, outdoor amphitheaters, study stations, agricultural displays, gardening demonstrations, tree plantings, etc.

Through the efforts of school districts, individuals and local, state, and federal agencies, the Youth Conservation Corps (YCC) has strengthened and promoted environmental education in Kentucky. Starting the summer of 1981, school districts participating in the YCC program could offer a one-hour course credit for their students. This course, entitled Ecology, became a part of the Program of Studies for Kentucky Schools, K-12.

Organizations and Businesses

There are many non-profit organizations and businesses in Kentucky pursuing the promotion of environmental awareness materials and programs within the schools. The interests of these organizations and businesses range from the protection and promotion of raptor release and rehabilitation to understanding importance of alternate energy use and recycling. A more descriptive listing of these organizations can be found in the Kentucky Area Environmental Energy Fair Resource Guide.

CHAPTER III

Program Goals and Objectives and Activities

The intention of the program goals, objectives, and activities is to identify, in quantitative terms, the steps necessary for fully implementing environmental education in Kentucky schools.

There are five basic goals for implementing environmental education in Kentucky:

(1) Teacher Orientation

(2) Program Development

(3) Physical Resource Utilization

(4) Promotion and Dissemination

(5) Program Implementation

In the following section, each goal will be paired with appropriate objectives and activities. LEA indicates Local Education Agency.

GOAL: Teacher Orientation
Objective 1:

Teachers will have access to environmental education processes and techniques through pre-service education at institutions of higher education.

Activity 1.1:

The Kentucky Department of Education will assist institutions of higher education in the offering of environmental education training to teachers as a part of their pre-service training either through special offerings in education or integrated into existing educational courses.

Activity 1.2:

The Kentucky Department of Education will assist institutions of higher education in the use of environmental centers as training centers for student internships, student teaching, and as field course resources. Provisions will be made for extended student teaching experiences at environmental education centers for secondary, elementary and special education teacher candidates.

Objective 2:

Teachers will have access to environmental education processes and techniques through inservice workshops and seminars as sponsored by LEAs, government agencies, universities, organizations and businesses.

Activity 2.1:

Inservice programs, seminars and workshops on environmental education will be made available to LEAs through the Kentucky Department of Education.

Activity 2.2:

Assistance in developing specialized training programs will be made available through the periodical publication of a resource guide, listing available local, regional, state, and national organizations with personnel and services available to educators.

Activity 2.3:

The Kentucky Department of Education will assist institutions of higher education, governmental and civic groups in the development and promotion of environmental education seminars, workshops, and inservice programs for use by educators.

Activity 2.4:

LEAs will seek assistance from institutions of higher education, government agencies, organizations, and businesses in developing inservice programs, seminars and workshops in environmental education.

GOAL: Program Development
Objecitve 1:

Programs in environmental education will be coordinated through the Kentucky Department of Education.

Activity 1.1:

Annual summaries of existing programs, activities and publications in environmental education in Kentucky will be written by the State Department of Education in cooperation with other state agencies and organizations and the information will be available upon request.

Activity 1.2:

Conferences on environmental education will be held with representatives invited from education, special interest groups, industry, and government.

Activity 1.3:

Clearinghouses for environmental education materials, resources and general information will be established at the state level in conjunction with regional efforts from institutions of higher education, LEAs, organizations, government agencies, and interested groups.

Activity 1.4:

Staff will be provided by the Kentucky Department of Education for the coordination and development of statewide environmental education programs.

Activity 1.5:

Each LEA will designate an environmental education coordinator for their system.

Activity 1.6:

The Kentucky Department of Education, in cooperation with interested groups and agencies, will review and update the goals and objectives of the appropriate state planning document for environmental education every two years.

Objective 2:

The Kentucky Department of Education will maintain an advisory council for the purpose of making recommendations to the Kentucky Department of Education on matters relating to environmental education.

Activity 2.1:

The Kentucky Superintendent of Public Instruction will make appointments to the Kentucky Advisory Council for Environmental Education.

Activity 2.2:

The membership of the Kentucky Advisory Council for Environmental Education will consist of representatives from various levels of education, goverment agencies, industry and citizen groups involved with environmental education activities with Kentucky schools.

Activity 2.3:

The role of the Advisory Council will include an annual evaluation of state plan implementation and suggestions regarding such implementation.

GOAL: Physical Resource Utilization

Objective 1:

Utilization of school site resources will be initiated by educators in Kentucky.

Activity 1.1:

Guidelines for utilization of school sites for environmental education are available from the Kentucky Department of Education.

Activity 1.2:

Other information relating to school site utilization are available through the state program manager for environmental education.

Activity 1.3:

The state program manager for environmental education will maintain an inventory of school environmental education sites and make it available for public distribution.

Activity 1.4:

Each school is encouraged to develop and actively use their school site or environmental education laboratory.

Objective 2:

Utilization of community resources will be initiated by Kentucky's LEAs.

Activity 2.1:

One person in each school will be identified to act as the school site environmental education coordinator.

Activity 2.2:

School systems will inventory their local communities in order to identify human and physical resources and systems.

Activity 2.3:

The LEAs will develop and make available the resource inventories to local personnel.

Activity 2.4:

Each LEA will establish an environmental education committee and include in its membership non-school personnel selected from the community inventory listing. This committee will seek funding for local programs and encourage program development in every school.

Activity 2.5:

Each school will utilize the resources identified in the community resource inventory to enhance environmental education programs.

Activity 2.6:

Each LEA will develop, and its schools will actively use, at least one community site as an environmental study area.

Activity 2.7:

School and community libraries will be encouraged to acquire materials and information relating to environmental education.

Objective 3:

LEAs will expand their existing programs and utilize the staff and facilities of regional environmental centers as resources. The state program manager will maintain and make available to LEAs an inventory of regional environmental centers and their services.

Activity 3.2:

Environmental centers will participate in educational conferences, professional meetings, cooperative projects, pre-service education sessions and other related activities and provide information regarding staff and facilities.

Activity 3.3:

LEAs, academic institutions, state and community agencies will be encouraged to develop regional environmental education centers (if none are accessible within the region).

GOAL: Promotion and Dissemination
Objective 1:

Promotion and dissemination of information relating to teacher orientation in environmental education will be initiated by the Kentucky Department of Education, the Kentucky Advisory Council for Environmental Education and other interested agencies and organizations.

Activity 1.1:

The Kentucky Department of Education, with assistance from other agencies and organizations, will prepare, administer and make available upon request results of survey designed to assess the status of pre-service and in-service training in environmental education.

Activity 1.2:

Resource guides and other literature will be disseminated giving information on workshops, seminars, and in-service programs available to interested groups.

Activity 1.3:

The Kentucky Department of Education and/or Kentucky Educational Television will televise periodic presentations on environmental education in Kentucky for use by schools.

Objective 2:

Responsibility for statewide promotion of environmental education and dissemination of related information will be vested in the Kentucky Department of Education.

Activity 2.1:

The Kentucky Department of Education will disseminate annual summaries of existing programs in environmental education in Kentucky.

Activity 2.2:

Regional resource centers will be established for dissemination of environmental education information and materials.

Activity 2.3:

The Kentucky Department of Education will publish and disseminate a resource guide of environmental educators and resource persons in Kentucky with names submitted from schools, special interest groups, business, and governmental sources.

Objective 3:

Promotion and dissemination of information relating to local physical resource utilization for environmental education will be initiated by the Kentucky Department of Education.

Activity 3.1:

Guidelines and promotional material will be available and disseminated upon request as resources for school site development by the Kentucky Department of Education.

Activity 3.2:

LEAs will disseminate community resource inventories to school personnel and interested groups and individuals.

Activity 3.3:

LEAs will disseminate information on and promote local programs and projects in environmental education.

Activity 3.4:

The Kentucky Department of Education will make available informational literature on environmental centers in Kentucky.

Activity 3.5:

Environmental centers will promote individual programs and facilities by making information available to the Kentucky Department of Education, conservation and environmental groups, and the media.

GOAL: Program Implementation
Objective 1:

Environmental education will be implemented in Kentucky schools.

Activity 1.1:

Each local board of education will encourage an environmental education plan to be integrated into their district's class curricula.

Activity 1.2:

Each school principal will be responsible for and encourage the integration of environmental education in each class.

Activity 1.3:

Each teacher will integrate planned environmental education activities into their basic curricula.

Objective 2:

Environmental education, integrated into the existing curricula, will be periodically assessed.

Activity 2.1:

Teachers will assess student knowledge and attitudes changed through environmental experiences.

Activity 2.2:

Principals will be knowledgeable of the environmental education programs within the school and report summary data to the local board of education.

Activity 2.3:

The Kentucky Department of Education will periodically request status reports on environmental education programs in each local school district.

CHAPTER IV

Strategies for Implementation

As defined by Webster a strategy is "the science and art of employing the political, economic, psychological and military forces of a nation or group of nations to afford the maximum support to adopted policies . . ." The strategy for environmental education must employ all of the above as tools for developing a statewide program. Although these forces are necessary to support the implementation, it is obvious that not all groups will be effective in use of all these forces. Different groups will have different responsibilities. To identify these responsibilities or roles is to identify the strategies for implementation.

There are specific roles for each of the five main goals identified in the previous sections. There are several broad categories of groups that will have input into the implementation of these goals. This section will identify the role of these groups with respect to specific goals of orientation, program development, physical resource utilization, promotion and dissemination, and program implementation. The categories, representative of most groups, are the Kentucky Department of Education, institutions of higher education, schools (K-12), special interest groups, and governmental groups. Each category will be discussed with respect to the inputs and the role each will assume in the implementation of goals.

GOAL: Teacher Orientation

Kentucky Department of Education: This department will have the overall coordinating responsibility for both in-service and pre-service education. Services to be provided include consultant services to colleges and universities, assistance in the organization of formal programs of study for environmental education, consultant services to public and private schools for in-service, and consulting with non-education groups in providing services for teacher orientation.

Institutions of Higher Education: Kentucky's colleges and universities will have major responsibilities for pre-service education through appropriate departments. Other responsibilities include the offering of environmental educational programs as integrated into specialized study areas and the development of in-service programs.

Schools (K-12): The school systems have the major responsibility for inservice training of staff, including classroom teachers and student and teacher-aids.

Special Interest Groups: These groups may sponsor or provide technical and logistical assistance in support of in-service and pre-service programs. Other activities may include the providing of specialized curriculum supplements to educational groups and in providing funding for special programs involved with teacher training.

Governmental Agencies: Local, state and federal agencies may sponsor or provide seminars and conferences on teacher orientation, and financial assistance for teacher orientation activities.

GOAL: Program Development

Kentucky Department of Education: This department will have responsibility for the overall coordination of program development in environmental education. Activities will include the provision of adequate staff for statewide coordination, the piloting of new, exemplary curricula, the development of model curricula, the development of model curriculum projects, the provision for consultants on curriculum development projects, the limited financing of projects in program development, and assistance in securing funding from other sources for program development activities and the aggregation and dissemination of information relating to environmental education.

Institutions of Higher Education: Colleges and universities shall have the major responsibility for pure and applied research in the field of environmental education as well as clearinghouse responsibilities. Other areas of responsibility include the development of model curricula, the establishment of exemplary sites and demonstrations, the providing of consultant services, and the provision of substantial undergraduate and graduate experiences in program development in environmental education.

Schools (K-12): Within the organization of schools lies the responsibility for program implementation. The development of community resources into program aids is a significant part of this responsibility. Other activities include:

1) appointing a coordinator with major responsibility for environmental education

2) obtaining local support for program efforts, and

3) seeking funding from outside sources.

Special Interest Groups: Expertise within special interest groups is a valuable resource for program development. The major input of these groups is in provision of supplemental services, materials, occasional funding of special programs, and non-formal education program presentations.

Governmental Agencies: Within the realm of program development, several governmental groups have developed self-contained instructional programs for use by educators. Technical assistance is another valuable asset provided by these groups. Other activities include the promotion of specific themes, such as energy, wildlife, soils, litter, population, etc., and the funding of special programs related to the purpose of the governmental groups.

GOAL: Physical Resource Utilization

Kentucky Department of Education: As physical resources, such as school sites, residential and non-residential resource centers, develop in Kentucky; the Kentucky Department of Education shall have the major responsibility for developing materials that aid educators in the interpretation and integration of these resources into their existing courses of studies. Such materials shall facilitate involvement of non-education groups and encourage these groups, governmental agencies, special interest groups, and industry, to construct, make available, or provide personnel to assist in the development of regional resource areas throughout Kentucky.

Institutions of Higher Education: Kentucky's colleges and universities have major responsibilities in establishing regional models using available physical resource areas and in providing consultant services to other educational programs in the development and integration of such areas.

Schools (K-12): LEAs and the schools within the systems have special responsibilities in identifying local physical resources such as industries, treatment plants, museums, forests, nature centers, parks, school sites, etc., as educational supplements to their curriculum. Equal effort should be directed toward the regional resources. Ultimately, it is the responsibility of the school to coordinate the use of local and regional resources with the total school curriculum.

Government Agencies: Since many of these agencies have access to special lands, facilities, and personnel, their input lies primarily in the realm of providing open access and technical assistance to education groups desiring to use these areas. Special emphasis should be given to the promotion of these areas by the governmental agency.

Special Interest Groups: These groups will be encouraged to participate in environmental education programs by making their physical resources available to LEAs. The Kentucky Department of Education, institutions of higher education, LEAs and governmental groups can disseminate information regarding their available resources through state associations, environmental education conferences and media, such as KET.

GOAL: Promotion and Dissemination

Kentucky Department of Education: The maintaining of an Advisory Council for Environmental Education and the collection and dissemination of environmental education information is the primary role of the Kentucky Department of Education. Activities should include the publishing of a statewide newsletter, the organization of an annual statewide conference on environmental education, the release of periodic press announcements and articles, the establishment of a dissemination and information network throughout the state, the promotion of regional clearinghouses and the organization of a statewide association for environmental education.

Institutions of Higher Learning: The colleges and universities should function as centers for regional clearinghouses for environmental education. They should be involved in the development and dissemination of promotional literature and each should have an officially designated contact-liaison responsible for environmental education and representation in the statewide dissemination network.

Schools (K-12): LEAs should promote and disseminate program information on local programs and maintain a contact-liaison individual as representative in the statewide dissemination network. Special efforts should be made to disseminate information to the classroom teacher.

Special Interest Groups: Special interest groups making presentations and/or distributing their own promotional material should be identified as such. When dealing with controversial issues, every effort should be made to present differing views.

Governmental Agencies: In addition to the promotion of specialized study programs, governmental groups should disseminate information relating to the availability of facilities, programs, and personnel that would be of use to schools. The U.S. Government Printing Office publishes much material relating to the environment and suitable for use in environmental education programs. These publications, as well as specially developed technical material, should be made readily available to school groups. Each participating governmental group should become a part of the statewide dissemination network.

GOAL: Program Implementation

Kentucky Department of Education: The state program manager for environmental education shall maintain a record of reports submitted by the local board of education relating to implementation and shall be responsible for dissemination of the findings.

Institutions of Higher Education: These institutions shall assist the local board of education and the state program manager in the development of assessment techniques, tests, and surveys for the purpose of reporting on program implementation.

Schools (K-12): The teachers have the major responsibility for integrating environmental education into the curricula. Each school will support and encourage their teachers in this effort. The schools will administer evaluative instruments relating to environmental education program implementation.

Special Interest Groups; These groups will assist in the promoting of environmental education through non-formal contacts.

Governmental Agencies: These groups will assist in promotion of program implementation through their individual mandates and available resources.